

SMO Metal and Energy Private Limited



Lead & Zinc Extraction



📍 Head Office:

Wahid Villa, Wahid Nagar, Old
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www.smoferroalloys.com



Factory Unit:

Survey No. 2803/90
Bankakheda, Kothari,
Bhilwada, Rajasthan

INTRODUCTION



Efficient and effective Lead and Zinc Extraction Process by our own lab expert and technician with their knowledge and experience.

There will be no surprise to the statement that India will be rising as Waste to Wealth Creation Nation of the next decade. Our people and our valuable Innovative Processes are our most important asset and foundation for success. At SMO, we strive everyday to Extracting Lead and Zinc Out of it. We started our journey from R & D level at our lab.



ABOUT US



The journey towards “The Waste to Wealth Mission”.



Welcome to M/s SMO Metal & Energy Private Limited, is a Bunch of inventive minds united in the quest to develop the most sustainable, affordable, and efficient energy security solutions worldwide. SMO Research has been incorporated to provide Battery recycling solution world wide, SMO aims is to be helps India in the Mission of Waste to Wealth creation by proving 0% Waste Solution with our High End Pollution free Technology.

SMO Metal & Energy Private Limited, Newly Formed Company, incorporated as 100% Subsidiary of A Well Reputed Diversified Portfolio owned Company SMO Ferro Alloys Private Limited.



The Company is New but, Promotors are doing Waste Management for many years..



OUR HISTORY



“Our Story defined as a journey of passion, perseverance and innovation”



**Initial Stage
2018-2020**

**Introduction: A tale of passion, perseverance, and innovation
Parent Company**

**Formation
2020-21**

SMO Started waste management by processing their Own Wastage.

**Laying the Foundation
2021-22**

SMO Metals and Energy Pvt. Ltd. has been incorporated for the purpose of doing recovery of metal from waste materials.

**Development
2022 – 2023**

SMO Metals has been started extracting Lead and Zinc and other valuable contains from the industrial waste.

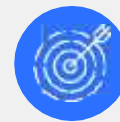


OUR VISION & OUR MISSION



Our vision

We envision to put in place a comprehensive framework and be recognized as a Environment, Social and Governance leader in the natural resources sector and create long term value for all our stakeholders through research, discovery, acquisition, sustainable development and utilization of natural resources.



Our Mission

To become the world's largest producer of sustainable Li-ion battery raw materials through recycling, repurposing, and low-carbon refining.

Our Core Values



INTEGRITY

HONOR OUR COMMITMENTS TO THOSE WE SERVE.

We don't take our commitments lightly. We will do everything within our power to meet expectations. We own up to and learn from our mistakes. We do the right thing always.



GROWTH

EMBRACE OPPORTUNITIES TO LEARN AND IMPROVE.

We invest in ourselves and in one another not just to grow as an organization but also as individuals. Through personal development and continuous improvement we enrich our lives and are better prepared to tackle opportunities as they arise.



INNOVATION

BE CURIOUS, ADVENTUROUS AND CREATIVE.

We question conventional wisdom and challenge the status quo. If there is a better way, we'll find it. We're excited by ingenuity and thrilled to try something new.



COMPASSION

OBSERVE, LISTEN, UNDERSTAND AND ASSIST.

We're all human. Everyone we work with experiences the same hopes and fears. Our compassion is what allows us to understand where we're needed and what we can do to help.



DRIVE

NEVER BE SATISFIED WITH GOOD ENOUGH.

Excellence is a habit not a goal. We welcome a challenge with enthusiasm and go above and beyond the call of duty because it's who we are.

OUR INFRASTRUCTURE FACILITY



Through operational excellence, processing capability and start of the art infrastructure which is at par with international standards, SMO focuses on large scale expansion of its product portfolio in World wide and emerge as a leading waste processing unit.

With a Plant Capacity as follows



Capacity-

Lead Production - 3% (990 MT Yearly, 83 MT Monthly, and 3 MT Per Day)

zinc Production- 2% (660 MT Yearly, 55 MT Monthly and 2 MT Per Day)



Extraction of other valuable minerals and metals out of it on Small Scale



The Company has sufficient land and factory shed for manufacturing and processing of Blead and Zinc extracting out of waste. Pilot Project for extracting was going on at Lab Scale Project for extracting was going on at Meghnagar Industrial Area. Now Company has proposed to scale up this projects on Pilot level by purchasing Land at Bhilwara for set up of Pilot level plant for 100 TPD raw input.



For Manufacturing and processing of waste for extraction of lead and zinc both machine and labour required. We are proposing fully automatic plant and machines and also we work in the Tribble area where there is sufficient availability of cheaper labours.

Need of the Project



Lead is very versatile and adaptable, and for centuries has been used in many different applications.

Lead is a highly flexible raw material used in various industries such as automotive, electronics and aerospace. A major application for lead is in vehicle batteries - from traditional internal combustion engines to the batteries which support safety mechanisms in electric vehicles.

Lead is also used in storage technologies, for example in data centres and telecommunication systems, as well as in emergency power generators for hospitals and other vital services.

Lead plays a key role in recycling other metals. Its carrier properties make it an efficient and effective enabler for recycling non-ferrous metals, from gallium used in mobile phones to the platinum in catalytic converters. Lead itself can also be recycled indefinitely.

Its high density makes lead an ideal shield against radiation used in medical imaging technologies - ensuring that patients and staff are protected when undergoing vital diagnostic tests, including X-rays and CT scans.

Our Plans

Our hubs will be located in strategic centralized locations. We are currently in the process of establishing our first full flaze unit at Shivgarh in Ratlam District, We also planning to set up our spoke outside India in the US by 2025. We also have plans to set up a spoke in the EU within the next two years.

Additionally, we are in the process of establishing spokes in southern and western India. Our customers and partners are all across the globe in the US, EU, Middle- East, East Asia, and South-East Asia.

Sustainability is at the heart of what we do, and we are inherently ESG focused with a target to Process 4 Million Tons of Batteries scrap by 2030.



OUR MANAGEMENT TEAM

SMO Metals and Energy Pvt. Ltd. was established on the supreme guidance and industrial experience of its founder **Mr. Saiyyed Akhtar Ali**, at **Band Ka Khera, Bhiulwara, Rajasthan**



**Mr.
Saiyyad
Akhtar Ali**

The Superlative Decision Maker backed by the decade long experience in handling the Construction, Manufacturing and Mining Business. His expertise on the operational side of the Business is commendable, his presence in every project is the reason behind excellent execution. The Group's Success and Growth in these two decades are the result of his business decisions. He believes in being associated with the roots



**Mr.
Saiyyed
Murtuza
Ali**

Mr. Murtuza Ali is the youngest and enthusiastic director of our company. He is mainly focused on the diversified business market. His capabilities and vision will lead the group to new heights. He understands the impact of his family business and its legacy that new relies on him to ensure it continues.



Lead and zinc Extracting

RAW MATERIAL

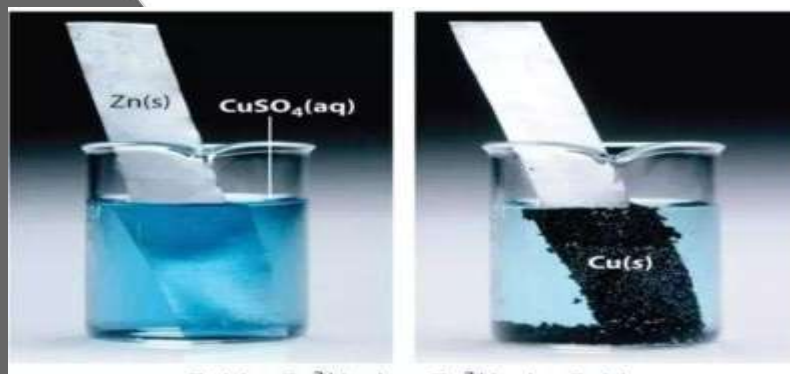
Waste slag



Waste Ore



Sulphate
Solution



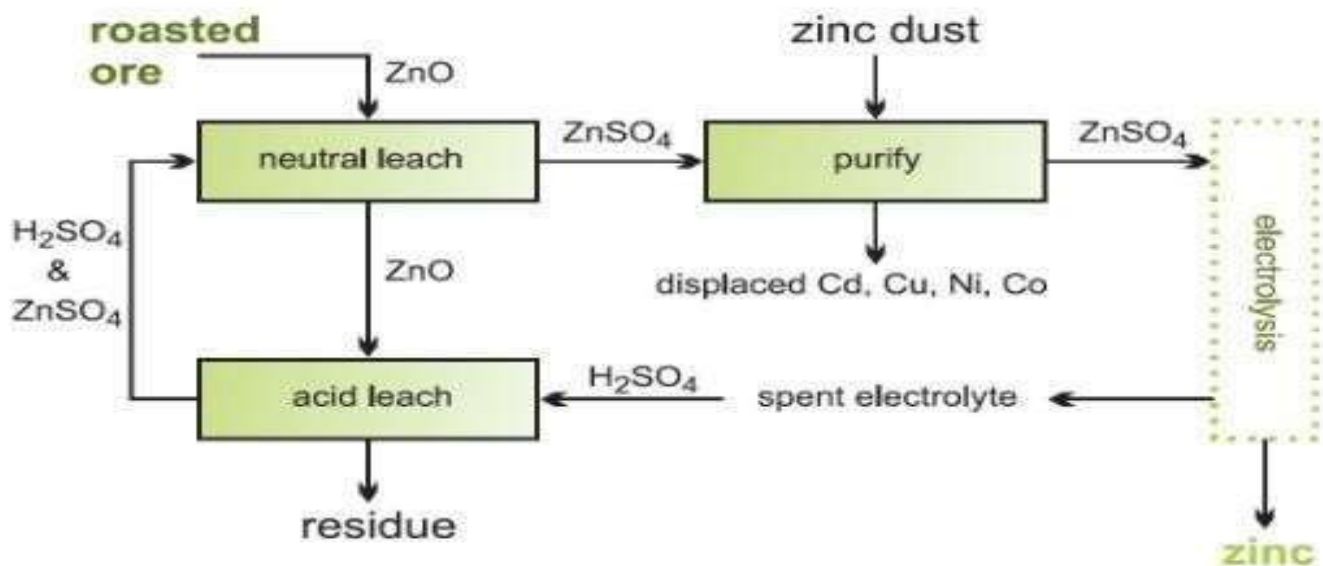
Sodium
Hydroxide



Lead & Zinc Manufacturing Process



Extracting the lead materials from the waste is a multi-step process. First the lead waste is ground into small particles that are less than 0.1mm, giving the ore a texture similar to table salt. Next the lead powder is put through a flotation process, that involves mixing the lead ore with water, the addition of pine oil and the introduction of air bubbles and agitation which forms an oil froth, containing the lead ore, on the surface. The froth is skimmed and then filtered to remove the water. The powder is then sintered at over 2500°F to oxidize impurities such as sulphur. The resulting powder is further heated in a blast furnace, with carbon producing molten lead which is drawn off into lead moulds. At this stage the lead is about 95% pure and is further refined to reach greater than 99% purity by melting and skimming impurities. Gold and silver can be removed from the bullion by adding to it a small quantity of zinc. Once the lead materials reaches a sufficient level of purity it is cast into lead blocks as the finished product. In some cases small quantities of impurities, such as Copper, Antimony, Tin & Zinc, may be added to form lead alloys with various properties.



Test report Lead and Zinc



Report in PPM

| | Au | Ir | Pd | Pt | Rh | Ru |
|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Solution | 242.794 | 212.681 | 360.955 | 214.424 | 343.488 | 349.894 |
| Label | nm | nm | nm | nm | nm | nm |
| T-1 | 128.03 | 5.74 | 10.94 | 8.39 | 1.46 | 22.05 |
| T 2 | 80.88 | 1.51 | 2.31 | 2.89 | 0.72 | 13.39 |

Report in Percentage %

| | Ce | Dy | Er | Eu | Ho | La | Lu | Nd | Pr | Sc | Y |
|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Solution | 399.924 | 353.602 | 349.910 | 390.711 | 339.895 | 408.671 | 291.139 | 386.341 | 390.843 | 424.682 | 361.104 |
| Label | nm | nm | nm | nm | nm | nm | nm | nm | nm | nm | nm |
| T-1 | 44.97 | -3.64 u | 3.3 | -1.59 u | -2.11 u | 30.39 | 1.37 | -12.51 u | 5.03 u | 3.6 | 15.09 |
| T-2 | 6.94 | -1.15 u | 0.27 u | -1.84 u | 0.05 u | 42.5 | 0.68 u | -19.23 u | 11.52 | 0.54 | 3.3 |

| | Ag | Al | Be | Ca | Cd | Co | Cr | Cu | Fe | Li | Mg |
|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Solution | 328.068 | 396.152 | 234.861 | 396.847 | 214.439 | 238.892 | 283.563 | 327.395 | 238.204 | 670.783 | 280.270 |
| Label | nm | nm | nm | nm | nm | nm | nm | nm | nm | nm | nm |
| T-1 | 30.87 | 24571.89 | 0.61 | 107578.1 | 20.94 | 101.98 | 953.32 | 5784.64 | 270986.9 | 23.9 | 8115.18 |
| T-2 | 209.34 | 6282.07 | 0.92 | 96391.43 | 254.36 | 10.05 | 162.51 | 833.51 | 191541.6 | 4.03 | 1850.94 |

| | Mn | Mo | Ni | P | Pb | Sb | Se | Sn | Ti | Tl | V | Zn |
|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Solution | 257.610 | 204.598 | 216.555 | 213.618 | 182.143 | 206.834 | 196.026 | 189.925 | 336.122 | 190.794 | 309.310 | 213.857 |
| Label | nm | nm | nm | nm | nm | nm | nm | nm | nm | nm | nm | nm |
| T-1 | 4065.08 | 1088.88 | 365.08 | 633.74 | 6481.86 | 224.02 | 2.93 | 14.14 | 1931.13 | 4.49 | 205.19 | 65182.08 |
| T-2 | 1386.97 | 18.93 | 45.05 | 519.55 | 33567.03 | 150.67 | 3.84 u | 11.57 | 463.24 | 53.38 | 184.32 | 18944.62 |

Final Finished Product- Lead and zinc



Lead

Zinc





Lead and Zinc

Market

The Statistical and Forecasting Committee conducts comprehensive six-monthly surveys of the views of both its members and their industry advisers and publishes corresponding short-term market forecasts together with a detailed market review. The preliminary and revised detailed forecasts for the global lead and zinc markets are circulated to member countries at the October and Spring Meetings. Summaries are also made available to the world metals' press.

The information provided by members enables the Committee to prepare forecasts that take into account the opinions of government and industry participants worldwide. As a consequence, the information they contain provides a unique perspective on the outlook for the global lead and zinc markets, attracting widespread interest amongst the global base metal's community.

The accuracy of each set of forecasts is carefully monitored and reported on, once the actual figures become available.

Market Size and Growth Potential

CAGR (Compound Annual Growth Rate)

<https://www.openpr.com>.

Sources- <https://www.vantagemarketresearch.com>.

<https://www.technavio.com/report/zinc-market-industry-analysis>

E-Waste Industrial By-products: Construction and Demolition processes generate by-products that contain valuable metals. For example, metal smelting, refining, and manufacturing operations produce residues, slags, and other waste materials containing copper, lead, and zinc.

Waste: generates substantial amounts of construction and demolition waste. This waste stream often contains metals like copper, lead, and zinc in various forms.

Industrial By-products: processes generate by-products that contain valuable metals.

One Pager for the Project

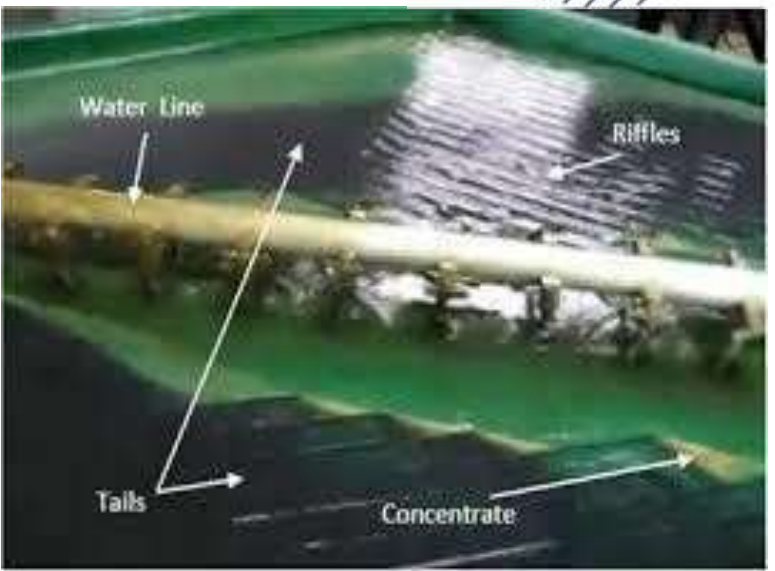
| | |
|---------------------------------------|---|
| Group Name | SMO Metal and Energy Private Limited |
| Company Address | 2803/90 Bankakheda, Bhilwada Rajasthan |
| Industry Type | Slag Processing Industry- 2000 TPD |
| Finished Goods with Capacity | Lead Recovery- 15120 TPA Zinc Recovery - 10080 TPA |
| Raw Material | Slag |
| Raw Material Sourcing | Sufficient Availblity |
| Project Stage | R & D Completed, Pilot level Completed, Land Acquired, Plant and Machinary Identified, Applied for NOC. |
| Commercial Production Start time | 6 Month from Investment |
| Process Description | Chemical Eco Friendly Process |
| Turnover Summary | Approx Rs.-648 Crores Yearly |
| EBITA Ratio | 49% |
| Funding Required | Rs. 150 Crores Capex |
| Payback Period | 5-6 Months |
| DCF valuation Project Life (10 Years) | Rs. 2600 Crores |

Project Financial:

PROJECTED PROFIT & LOSS A/C FOR NEXT 5 YEARS

| Partculars | Amount (in Cr) | | | | |
|----------------------------------|----------------|--------|--------|--------|--------|
| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| Sales: | | | | | |
| Lead Ingot | 264.60 | 269.89 | 275.29 | 280.80 | 286.41 |
| Zinc Ingot | 383.04 | 390.70 | 398.51 | 406.49 | 414.61 |
| | | | | | |
| Total Revenue | 647.64 | 660.59 | 673.80 | 687.28 | 701.03 |
| | | | | | |
| Cost of Purchase | | | | | |
| Raw Material | 57.60 | 58.75 | 59.93 | 61.13 | 62.35 |
| Direct Expenses | | | | | |
| Processing Stage 1 Exp. | 72.00 | 73.44 | 74.91 | 76.41 | 77.94 |
| Processing Stage 2 Exp. | 158.40 | 161.57 | 164.80 | 168.10 | 171.46 |
| Electricity Expenses | 3.60 | 3.67 | 3.75 | 3.82 | 3.90 |
| Labour Expenses | 1.44 | 1.47 | 1.50 | 1.53 | 1.56 |
| Total Direct Cost | 293.04 | 298.90 | 304.88 | 310.98 | 317.20 |
| Gross Profit | 354.60 | 361.69 | 368.93 | 376.30 | 383.83 |
| | | | | | |
| Indirect Expenses | | | | | |
| Administrative & Salary Expenses | 36 | 36.72 | 37.45 | 38.20 | 38.97 |
| Depriciation | 22.50 | 19.13 | 16.26 | 13.82 | 11.75 |
| Interest Cost | 18.00 | 18.36 | 18.73 | 19.10 | 19.48 |
| Other Cost | 7.20 | 7.34 | 7.49 | 7.64 | 7.79 |
| Total Indirect Cost | 83.7 | 81.55 | 79.93 | 78.76 | 77.99 |
| Net Profit | 270.90 | 280.14 | 289.00 | 297.54 | 305.84 |
| | | | | | |
| Net Profit Ratio | 41.83% | 42.41% | 42.89% | 43.29% | 43.63% |

GALLERY





Thank You